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**Measuring Control Over Nursing  
Practice Among Hospital Staff Nurses**

**By  
Steven Edward Walls**

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**A Thesis Submitted to the Faculty of the  
COLLEGE OF NURSING  
In Partial Fulfillment of the Requirements  
For the Degree of  
MASTER OF SCIENCE  
In the Graduate College  
THE UNIVERSITY OF ARIZONA**

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### ABSTRACT

An adequate measure of Control Over Nursing Practice (CONP) at the organizational level of the nurse's work unit was needed. The purpose of this study was to estimate the reliability and validity of a new unit-level version of an existing CONP scale using a descriptive survey design. A convenience sample of 91 staff Registered Nurses from two urban hospitals voluntarily completed two versions (individual-level and unit-level) of the CONP scale, and an index of work satisfaction.

The intraclass correlation coefficient for the CONP scale was .6567 (criterion  $\geq .60$ ), and the internal consistency reliability coefficient was .95. Factor analysis was used to validate the unidimensional structure of the revised scale. The unit-level CONP scale positively impacted on work satisfaction as predicted. Therefore, findings suggest the unit-level CONP scale is a reliable and valid measure of CONP at the organizational level of the nursing unit.

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#### ABSTRACT

An adequate measure of Control Over Nursing Practice (CONP) at the organizational level of the nurse's work unit was needed. The purpose of this study was to estimate the reliability and validity of a new unit-level version of an existing CONP scale using a descriptive survey design. A convenience sample of 91 staff Registered Nurses from two urban hospitals voluntarily completed two versions (individual-level and unit-level) of the CONP scale, and an index of work satisfaction.

The intraclass correlation coefficient for the CONP scale was .6567 (criterion  $\geq .60$ ), and the internal consistency reliability coefficient was .95. Factor analysis was used to validate the unidimensional structure of the revised scale. The unit-level CONP scale positively impacted on work satisfaction as predicted. Therefore, findings suggest the unit-level CONP scale is a reliable and valid measure of CONP at the organizational level of the nursing unit.

## CHAPTER ONE

### INTRODUCTION

In the face of increasing demands for registered nurses (RNs), strategies to enhance the availability of nursing resources are a major concern (Moritz, Hinshaw & Heinrich, 1989). However, strategies specific to recruiting and retaining RNs have had varying results. Recent research supports the benefits of restructuring the practice environment as a means of increasing job satisfaction as a way of decreasing vacancy or turnover rates among hospital staff RNs (Hinshaw, Smeltzer & Atwood, 1987; Prescott, 1987). Additionally, it is becoming evident that research based changes in nursing care delivery systems may be the most effective means for retaining nursing resources (Dennis, 1991; Moritz et al., 1989). For example, recent models regarding the organization and delivery of nursing care described as professional practice models are evolving, based in part upon a research perspective (Dennis, 1991).

Important factors under study include professional issues, such as control over nursing practice, opportunities for growth and promotion, and interpersonal relationships (Hinshaw et al., 1987; Prescott, 1987). This study was focused on the issue of Control Over Nursing Practice (CONP), and specifically on the measurement of the concept

of CONP. CONP was defined as one's perceived freedom to evaluate and modify nursing practices, to make autonomous decisions related to a patient's care, and to influence the work environment and staffing at the unit level of organization (Gerber, Murdaugh, Verran, & Milton, 1990).

Professional practice was expected to increase staff nurse job satisfaction and, in turn, to retain the nurses in their current positions (York & Fecteau, 1987). Control over nursing practice (CONP) has been identified as an important aspect of professional nursing practice (Manthey, 1989; Hinshaw, Smeltzer & Atwood, 1987; York & Fecteau, 1987). However, the study of CONP has been limited due to a dearth of instruments to measure this abstract concept (Gerber et al., 1990).

One relatively new scale has been developed to measure perceived CONP (Appendix A) for use with individual staff nurses (Gerber et al., 1990). While the scale has demonstrated acceptable psychometric properties when used with the individual as the unit of analysis, a revised scale was needed to increase sampling of the content domain at the organizational level of the hospital inpatient nursing unit (Verran, 1990). Therefore, the intent of this study was to examine the reliability and validity of the unit-level version of the CONP scale when administered to hospital staff RNs functioning as a work group.

The nature of the problem, including available measures of CONP, are discussed in the next section, followed by a statement of the purpose and significance of this study. Five research questions are presented.

#### Nature Of The Problem

Several studies have indicated that organizational factors are important to improving nurse satisfaction (Pooyan, Eberhardt & Szigeti, 1990; Hinshaw, et al., 1987; Weisman, Alexander & Chase, 1981). Weisman et al. (1981) suggested that hospitals might structure conditions or incentives to increase levels of responsibility and control over both the content and scheduling of work within clinical nursing. More recently a study by Hinshaw et al. (1987) provided empirical support for a theoretical framework describing several variables, including perceived control over nursing practice, that are associated with nursing turnover. Consequently, they recommended that nursing leaders should concentrate on the complex issue of control over practice (Hinshaw, et al., 1987). They suggested that retention of nurses will be improved by incorporating control over practice and professional autonomy as a part of the hospital system (Hinshaw et al., 1987).

Additionally, Pooyan et al. (1990) studied six work-related (organizational) variables and RN turnover. Pooyan

et al. (1990), reported that their findings regarding a concept termed "Opportunity for Participation in Decision Making" were consistent with the earlier study by Hinshaw et al. (1987). Participation opportunity was defined as the perceived level of "say" nurses have in making job-related decisions (Pooyan et al., 1990). Based upon their findings, Pooyan et al. (1990) suggested that if hospitals allowed RN participation in decision-making and autonomy in work-related decisions, RN turnover rates may be reduced. The above examples of recent research suggest a need to continue the study of control over nursing practice.

#### Measures of CONP

For the federally funded study entitled "The Conduct and Utilization of Research in Nursing (CURN) Project." Horsley & Pelz (1976) generated a questionnaire to evaluate control over clinical (nursing) practice in a hospital setting. The CURN measure of CONP is believed to be the first index of the CONP concept (Gerber, 1990). CONP was described as an organizational variable defined as the degree to which decision making is allocated to and perceived as effective by the staff (Hinshaw & Atwood, 1986). The index included a measure of staff nurse control over clinical practice in areas such as utilization of applicable research and evaluation of practice innovations

(Horsley & Pelz, 1976). Subscales included questions related to evaluation and modification of practice, successful use of personal resources, and research utilization (Hinshaw & Atwood, 1986).

Atwood and Hinshaw (1982) used the CURN index and described some of the scale psychometrics. The CURN index of CONP had over 40 items with varying response options (Atwood & Hinshaw, 1982). The various dimensions of the scale included control over practice, access to ideas, interpersonal influence, evaluation and modification, resources, and research utilization (Atwood & Hinshaw, 1982). According to Atwood and Hinshaw (1982) the CURN index of CONP was administered in Michigan and Arizona to two convenience samples ( $N = 167$ ) of RNs from the major clinical services. Four of the six dimension-related indices were deemed to have moderate construct validity, but were not identified by Atwood & Hinshaw (1982).

The scale was later adapted for computerized scoring in a large study ( $N = 1597$ ) of anticipated turnover among hospital nurses in seven urban and eight rural hospitals (Hinshaw et al., 1987). Each subscale exhibited acceptable psychometric properties with alphas between 0.72 and 0.87 (Hinshaw & Atwood, 1986). However, the varying response options and the complexity of some of the items contributed to the clinical inefficiency of the scale.

In response to the need for a more efficient scale, Gerber et al. (1990) developed a 23 item Likert-type scale for use in the Differentiated Group Professional Practice (DGPP) In Nursing project (Verran, Murdaugh, Gerber, & Milton, 1988). After two testings of the CONP scale, two items were deleted based on an item analysis and an assessment of the psychometric properties of the scale (Gerber, 1990). Subsequently, several testings of the 21 item CONP scale were conducted with staff RNs (N = 137 to 215) employed in urban and rural acute care hospitals in Arizona (Gerber, McNamara, Verran, Murdaugh, & Milton, 1991). The scale demonstrated acceptable internal consistency reliability using Cronbach's alpha by exceeding the .80 level for each testing (Gerber et al., 1991; Cronbach, 1951).

Pooyan et al. (1990) studied an organizational variable titled "participation opportunity" that measures perceptions of nurse's that appear to be similar to control over nursing practice. The participation opportunity scale was developed by Price & Mueller (1981) (cited in Pooyan et al., 1990). The eight Likert-type items assessed how much "say" the respondents were perceived to have in making job related decisions (Pooyan et al., 1990). Cronbach's alpha reliability coefficient for the scale was .84 (Pooyan et al., 1990).

Although these scales have exhibited acceptable reliability and validity, they each have important limitations. The scale used by Pooyan et al. (1990) dealt with decisions regarding how to do one's work with two examples listed: 1) The sequence/speed of work, and 2) the division of work responsibility. This scale appears to measure CONP only superficially and it does not analyze CONP at the unit-level; that is, it may not be comprehensive enough for adequate study of CONP. The scales that were developed for the CURN and Anticipated Turnover projects were clinically inefficient (Gerber et al., 1990). For example, the subscales were not homogeneously constructed and they had various response options that resulted in a rather cumbersome tool for the respondent to discern.

The CONP tool originally developed and tested by Gerber et al. (1990) has been determined to be clinically efficient, reliable and valid when used with individual inpatient staff nurses in both urban and rural hospitals (Gerber et al., 1990). Hence, it is referred to as the individual version of the CONP scale. Additionally, several testings of the individual-version CONP scale have demonstrated acceptable reliability and validity estimates (Gerber et al., 1991).

In summary, the individual version of the CONP scale has exhibited many positive reasons for its continued use.

However, use of the individual version of the CONP tool is limited due to a pitfall of multilevel research (Verran, 1990; Glick, 1985). Of particular concern is the accuracy of using aggregated individual level data to index a group level construct (Verran, 1990).

The preferred method to determine the reliability for group level data is to use a form of the intraclass correlation coefficient (ICC) (Glick, 1985). Glick (1985) indicated that the ICC at the  $\geq .60$  level provides a measure of the reliability of the aggregated score at a unit or group level. The ICC for the individual version of the CONP scale has been reported to be consistently below .60 and is, therefore, insufficient to index the group level concept of CONP (Verran, 1990).

Continued use of a scale without further revision to achieve an index of group level CONP is likely to result in misspecification (Glick, 1985). Therefore, it seems prudent to revise the individual version of the CONP scale in an attempt to correct the problem of misspecification as a potential source of error when analyzing data. One method to guard against the kind of misspecification addressed above is to use a questionnaire that measures the group (Verran, 1990, Sirotnik, 1980). That is, according to Howe (1977), the item should specifically ask about the individual's unit or department.

In the original 21-item individual version of the CONP scale, the response options were preceded by the stem "As a nurse, I am free to..." (Appendix A). For this study the scale has been revised so that the stem reads, "As a group of nurses on this unit, we are free to..." (Appendix B). Therefore, the questionnaire is not ambiguous, and the questionnaire items are directed towards the perceptions of the nurse's work group which is the preferred unit of analysis in many organizational studies (Glick, 1985; Howe, 1977).

To date, no instrument is yet available to measure CONP at the level of the nursing unit (Verran, 1990). One instrument was known to have been developed to measure individual perceptions of CONP. However, when tested using aggregated individual level scores, the CONP scale did not meet the criterion of  $R \geq .60$  to adequately measure CONP at the group level (Verran, 1990). Therefore, a different version of the scale to measure CONP at the nursing unit-level (work group level) was needed.

#### Purpose of the Study

The purpose of this study was to determine the reliability and validity of the unit-level version of the CONP scale. The five research questions in this study were:

1. What is the estimated internal consistency

reliability of the control over nursing practice scale when revised to reflect hospital staff nurse opinions as a work group?

2. What are the estimated intraclass correlations for the individual version and the unit-level version of the CONP scale when used with hospital staff nurses?

3. How different are the intraclass correlation coefficients when the individual and unit-level versions are compared?

4. What is the construct validity (factor structure) of the unit-level (group) CONP scale when used with hospital staff nurses?

5. To what extent does the unit-level measure of perceived control over nursing practice predict work satisfaction among groups of hospital staff nurses assigned to critical care or specialty care units and medical-surgical units?

#### Significance of the Study

Control over nursing practice as an important organizational variable has been identified (Hinshaw et al., 1987; Weisman et al., 1981). Increasingly CONP among staff nurses is viewed as one long term approach to enhance job satisfaction, and in turn, retention of RNs employed at hospitals (Gerber et al., 1990; Hinshaw et al., 1987; Weisman et al., 1981). That is, strategies or efforts to

enhance CONP within the agency might provide more "satisfiers" to staff nurses (Hinshaw et al., 1987). In order to better evaluate retention strategies the complex and important concept of CONP needs to be effectively measured. That is, as strategies are implemented that influence the variable of CONP, effective measurement of the CONP variable is needed. Therefore, measurement of the important phenomenon of CONP would enable strategies to increase job satisfaction to be more effectively studied (Gerber et al., 1990). However, available research on CONP is limited at present(Gerber et al., 1990).

Furthermore, the issue of CONP has been described as complex (Hinshaw et al., 1987). This complexity is due, in part, to the multiple levels of the nursing organization that determine control over nursing practice. That is, individual level CONP is determined in concert with decisions made both within the work group of nurses and also by higher organizational influences. Multilevel issues like the kind described above are not unique to organizational science (Glick, 1985). In fact, Glick (1985) contends that multilevel issues are often the most important problems in organizational science.

In conclusion, developing an effective measure of CONP, such as a unit-level version of the CONP scale, will provide a prudent resource in the efforts to evaluate organizational

strategies. That is, the ability to effectively measure the concept of CONP is significant.

### Summary

The statement of the problem, purpose and significance of this descriptive survey study have been identified. Knowledge of control over nursing practice is important to implementing strategies to reduce nursing turnover. However, there is a dearth of instruments to measure CONP. Gerber (1990) has recently developed a promising instrument to measure CONP. The literature suggests a way to appropriately revise the instrument to measure nurses's perceptions of control over nursing practice at the operational level. Testing of a unit-level version of an existing CONP instrument will determine if it is reliable and valid at the unit-level of analysis. The significance of this study lies in the opportunity to test an instrument that potentially can measure the concept of CONP more adequately.

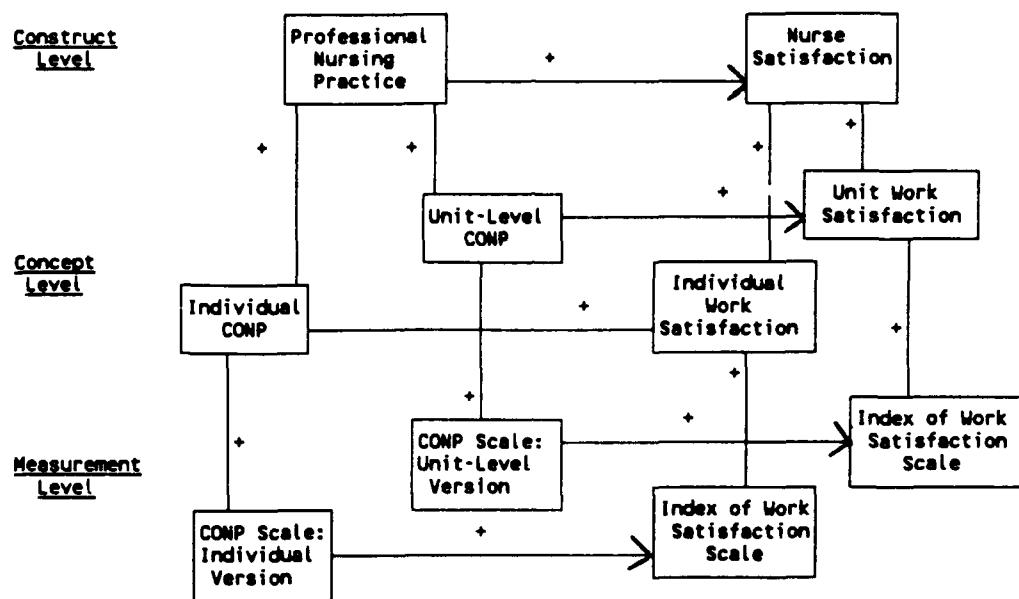
## CHAPTER TWO

### REVIEW OF THE LITERATURE AND THEORETICAL FRAMEWORK

The components of the framework will be described with particular attention to the essential constructs and concepts for the development of the measurement tool described in this paper as the unit-level CONP scale. The theoretical system (Figure 1) for this study contained two levels: The more abstract construct level and the more definable concept level. The relationship between professional nursing practice and nurse satisfaction is described in the construct level of the framework. Professional nursing practice is indexed by two concepts: individual-level CONP and unit-level CONP. The construct of nurse satisfaction is indexed by a work satisfaction scale. Each of the constructs and concepts and their proposed relationships will be discussed.

#### Overview

Central to the theoretical model (Figure 1) is the concept of control over nursing practice as referenced by Manthey (1989). That is, control over decision-making is key to a professional practice model. The concept of autonomy and the role of authority and accountability influence perceived CONP (Batey & Lewis,



CONP = Control Over Nursing Practice

**Figure 1. Theoretical Framework Describing Relationships Between Professional Nursing Practice, Control Over Nursing Practice, and Work Satisfaction.**

1982). In addition, CONP is viewed as an important "satisfier" to staff nurses (Hinshaw et al., 1987). Therefore, the construct of professional practice is supported by CONP (Figure 1).

#### Professional Nursing Practice

Professional practice has been defined as nursing's autonomous decision making control over a patient's nursing care (Manthey, 1989). Professional practice has also been recognized as the freedom to practice and to self-govern one's endeavors (Porter-O'Grady, 1987). To exercise the professional role is to have the liberty, authority, and the autonomy to enact decisions based upon one's knowledge and experience to perform (Scearse, 1989; Batey & Lewis, 1982).

Authoritarian control over nursing practice has been generally preferred within hospitals (Manthey, 1989). Manthey (1989) reported that "many managers view hospital nursing as a collection of manual skills performed by people with knowledge deficiencies...rather than a knowledge based function" (pg. 14). Productivity by nurses has been measured by determining if all tasks were getting 'done on time', however, productivity with respect to the knowledge worker (nursing practice) is primarily quality (Manthey, 1989). Therefore, Manthey (1989) suggests that authoritarian control and professional autonomy must be

balanced to maintain an effective organizational system of nursing care delivery. Recognizing the value of knowledge based practice is key to the growth of professional practice (Manthey, 1989). That is, maintaining a balance between position (or authoritarian) power and expert power is a critical issue in the struggle over control of nursing practice (Manthey, 1989). Position control is concerned with the authority to control or enact decisions concerning the delivery of nursing care to clients (e. g.; at the level of the staff nurse) (Manthey, 1989). Authoritarian control may not be congruent with the knowledge base or expert power possessed by the staff nurse (Manthey, 1989). An attribute of professional practice is that knowledge based decision making occurs as close to the point of service as possible (Manthey, 1989). That is, decision making at the level of the bedside makes nursing practice autonomous and is synonymous with professional nursing practice (Manthey, 1989).

Because professional nursing practice fosters decentralized decision making as determined by the organizational structure, staff nurses are empowered, that is, have control over their nursing practice (Manthey, 1989). Empowerment is the term used for the organizational activities that foster application of knowledge, expertise and accountability into decision making (Chandler, 1991;

Jacoby & Terpstra, 1980). Thus, empowerment promotes professional practice because autonomous decision making regarding nursing practice is primarily knowledge based (Manthey, 1989). Furthermore, an environment within which professional nursing practice can thrive will positively impact quality patient care as well as being a satisfier to nurses (Hinshaw et al., 1987).

#### Nurse Satisfaction

Job satisfaction has been known to effect turnover among staff nurses (Hinshaw & Atwood, 1987; Weisman et al., 1981). Two kinds of job satisfaction are organizational and professional/occupational satisfaction (Weisman et al., 1981; Slavitt, Stamps, Piedmont, & Hasse, 1978). Several studies of these concepts have been conducted (Gillies, Franklin & Child, 1990; Stamps & Piedmont, 1986; Larson, Lee, Brown, & Shorr, 1984). Consistent among these studies is the complex nature of job satisfaction, and yet, data and intuitive sense confirm increased job satisfaction as being associated with increased job retention (Gillies et al., 1990; Stamps & Piedmont, 1986; Larson, Lee, Brown, & Shorr, 1984). Nurse satisfaction, in this study, is defined as perceived enjoyment of work in terms of autonomy, task requirements, organizational requirements, job status, pay, nurse-nurse

interaction, and physician-nurse interaction (Stamps & Piedmont, 1986).

A professional nursing practice environment promotes nurse satisfaction (Hinshaw et al., 1987). Changing technologies and the shortened lengths of patient's hospitalization have resulted in a change in levels of nurse satisfaction (Pooyan et al., 1990; Hinshaw et al., 1987). Nurse satisfaction is primary to the delivery of quality, cost-efficient patient care (Searle, 1990). Additionally, Hinshaw et al. (1987) suggest that nurse satisfaction may affect patient satisfaction and patient compliance with the treatment plan. However, now there is significant evidence that professional practice and its components are enhancing nurse satisfaction and the goal of cost efficient care is occurring (Manthey, 1991). Therefore, professional nursing practice positively influences nurse satisfaction (Pooyan et al., 1990; Manthey, 1989; Hinshaw et al., 1987).

In Figure 1, work satisfaction appears to be measured at the individual-level and the group-level. However, for this study an individual-level measure of work satisfaction was used. The individual-level work satisfaction scores were aggregated as an index of group-level work satisfaction.

### Control Over Nursing Practice

The following is a discussion of the concept of Control Over Nursing Practice (CONP). The first section is a review of the literature related to individual-level CONP. The second section references CONP as being more accurately a group-level or unit-level concept, particularly among nurses employed in hospitals and other organizations. The third section discusses the concept of autonomy as an integral component of CONP. Last, measurement of the concept of CONP is described.

#### Individual-Level CONP

The first concept of the theoretical framework is individual-level CONP. Hinshaw et al. (1987) defined CONP as an organizational factor referencing the concept of centralization and involvement in decision making to designated nursing staff members. Verran et al. (1988) defined control over nursing practice as the freedom to evaluate and modify nursing practices, to influence others and the environment, and to work with others in the delivery of care.

Manthey (1989) describes control over a patient's nursing care as a result of autonomous or knowledge based decision making. Furthermore, Gerber et al. (1990) define CONP as one's perceived freedom to evaluate and modify

nursing practices, to make autonomous decisions related to a patient's care, and to influence the work environment and staffing at the unit level of organization.

Within nursing, control of practice is concerned with the perceived degree of freedom to take action (Manthey, 1989). Freedom means having the feeling of being able to do as one likes as it is consistent with doing one's duty (Muller, 1970). Freedom is the satisfier because it feels good to be able to choose and to carry out purpose (Muller, 1970). Individuals are not free when constrained from following their inclinations; again, in the context of doing one's duty (Muller, 1970). Therefore, employment as a professional is a potentially satisfying experience due at least in part to the inherent freedom or control a professional has over one's own duties.

Freedom includes the ability to pursue a meaningful choice and can be characterized as being absent of coercion or constraint by another person (Partridge, 1970). 'Control over' means or suggests that a condition of unequal power exists in the relevant sense that the less powerful are restricted to a range of available choices (Partridge, 1970). Freedom is, therefore, power to act in accordance with the choice; the actual ability to execute the decision (Dewey, 1970). Without genuine choice, by virtue of control, a person may feel like a puppet, as actions cannot

be considered one's own (Dewey, 1970). Clearly, freedom of choice in regards to decision-making is an integral part of control and is, therefore, included as the focal point when measuring CONP. That is, "I have the freedom to" or "we have the freedom to" (on the CONP scale; Appendix B) indicates the reference point to determine the degree of control a nurse, or a group of nurses, utilize.

#### Unit-Level CONP

The second concept of the theoretical framework is unit-level CONP. Unit-level CONP is concerned with the group of nurses that work together to deliver patient care. The concept is similar to individual-level CONP by definition. However, the degree of freedom to practice autonomously is determined by the aggregation of the nurses knowledge base (at the unit or work group level) and the empowerment or control set by the organizational structure. The preceding point is clearly evident in the definition of CONP by Verran et al. (1988) in which: CONP involves influencing others and the environment, and to work with others in the delivery of care. That is, the determinant of decision making in reference to patient care delivery is made as a team or by the group of professionals exercising their collective knowledge and skills.

Participative management and shared governance are two components of professional practice that focus on the group or unit-level concepts (Allen, Calkin, & Peterson, 1988). Levels of work (or nurse) satisfaction have improved due to increases in control, autonomy and decision making authority attributed to professional practice models (Wilcoxon, 1989; York & Fecteau, 1987). In summary, both individual level CONP and unit-level CONP are predicted to be associated with work satisfaction among hospital staff nurses.

#### Autonomy

The concept of autonomy is related to control. A discussion of this related concept is important to clarify how control over practice must be based upon nursing autonomy. Autonomous nursing practice is knowledge based CONP, and is needed in order for nursing to progress as a profession.

Engel (1970) discussed the issue of work related autonomy as important to the professional employed in a bureaucratic organization. Since the vast majority of RNs work in bureaucratic settings the earlier work by Engel is significant. Engel (1970) identified that the client enters into a relationship with a professional because the professional is expected to be autonomous in respect to responsibility, communication and innovative factors. Engel

(1970) posited that perceived autonomy of professionals would be negatively affected by increasingly bureaucratic organizations. Engel's (1970) study was undertaken to determine empirically the relationship between bureaucratic structure and the degree of perceived professional autonomy within the client-professional relationship. The independent variable was the degree of bureaucratization of three settings based upon; 1) the number of hierachial levels in each setting, 2) the degree to which rules and regulations were utilized, and 3) the presence or absence of a physical setting in which work could be performed in teams or groups (Engel, 1970). The dependent variable was the degree of professional autonomy usually expected with respect to factors such as responsibility, communication, and innovation in the delivery of adequate service. The distribution and settings selected to measure perceived autonomy within a professional group (physicians) were as follows; 230 were in solo practice (representing non-bureaucratic practice), 276 were in a privately owned medical organization (representing a moderate level of bureaucratic practice), and 178 were in governmentally associated organizations (representing highly bureaucratic [or controlled] practice) (Engel, 1970).

A professional autonomy Likert-type questionnaire was designed to determine the degree of autonomy of each member

within their practice setting (Engel, 1970). It dealt with their perceptions related to; 1) clinical practice, 2) research, and 3) various relevant control variables. A total of 1,628 questionnaires were sent out and 684 (42%) were returned. The findings revealed that professionals working in a moderately bureaucratic organization perceived greater autonomy than the other groups (Engel, 1970). These findings suggest that the professional kind of bureaucratic organization is not necessarily detrimental to professional autonomy (Engel, 1970).

In another key study, structural and attitudinal aspects as perceived by members in highly 'professionalized' occupations (e. g.; physicians and lawyers), and in emerging or less 'professionalized' occupations (e. g.; nursing) were examined to measure effects of bureaucratic and 'professionalization' factors (Hall, 1968). Autonomy was identified as the lone attribute that had both a structural and an attitudinal aspect (Hall, 1968). Using a descriptive survey design, respondents ( $N = 328$ ) from 11 equally represented occupations were studied. The research design called for inclusion of occupations acknowledged to be professions, as well as those occupations which are aspiring to become professions including nursing, accounting, teaching, and engineering (Hall, 1968). Indicators of professional behavior included "feeling of autonomy"

(nursing ranked lowest), and "sense of calling to (occupational) field" (nursing ranked very high) (Hall, 1968). A significant finding for nursing was that nurses reported structural hierarchy as being far less important to autonomy than professional attitudes (Hall, 1968). Overall, the findings of this study indicate that strong negative relationships existed between the autonomy variable and bureaucratic dimensions ( $p = \leq .01$ ) (Hall, 1968). Hall (1968) suggested that these findings need further research to determine the extent and sources of bureaucratically and professionally related conflict.

More than a decade ago, a study of nursing job satisfaction and turnover was conducted to determine organizational attributes which contributed to turnover (Weisman et al., 1981). A causal framework was developed in which perceived autonomy was predicted to influence job satisfaction due to job-related attributes (Weisman et al., 1981). Autonomy was defined as perceived independence or control over work activities (Weisman et al., 1981). The authors designed a longitudinal study of hospital staff nurses ( $N = 1,259$ ) employed among 105 nursing units representing all major clinical areas throughout two large urban university hospitals (Weisman et al., 1981). Data from the multivariate interview format supported the predicted relationships. That is, organizational attributes were

shown to influence perceived autonomy, job satisfaction and intent to leave the agency (Weisman et al., 1981).

Alexander, Weisman, & Chase (1982) defined the concept of autonomy as perceived independence or control over work activities. The investigators used multiple measures administered during a 30 minute interview as part of a longitudinal study of job satisfaction and turnover among hospital staff nurses ( $N = 789$ ) (Alexander et al., 1982). The measures included four personal and six job related characteristics. In addition, perceived autonomy was measured by a four-item scale from the Quality of Employment Surveys (Alexander et al., 1982). The scale measured workers' perception of their decision-making power relative to the conduct of their jobs according to Quinn & Shepard (1974) (cited in Alexander et al., 1982). The items were concerned with; 1) freedom of how to do one's work, 2) the amount of individual decision-making, 3) the actual ability to take part in decisions that directly affect a worker, and 4) how much say does one's job allow over what happens on the job (Alexander et al., 1982).

Two significant ( $p < .05$ ) personal correlates and four significant job-related correlates of perceived autonomy were identified (Alexander et al., 1982). An association between primary nursing and autonomy was positive ( $r = .11$ ), and similarly, a weak negative relationship was found

between the nurse's position level and her perceptions of autonomy ( $r = -.19$ ) (Alexander et al., 1982). The investigators reported that the study findings indicated that perceptions of autonomy are influenced by personal attributes and by structural features of the staff nurse's unit. Therefore, Alexander et al. (1982) suggested that increasing the amount of control nurses have over their work is a first step in promoting nurse's job satisfaction, reducing their turnover, and in promoting the professionalization of nursing.

Batey & Lewis (1982) identified a lack of the empirical study of autonomy and structural factors in nursing. The purpose of their two part series on autonomy and accountability was to achieve clarity about the two concepts (Batey & Lewis, 1982), and to demonstrate that autonomy is the focal concept (Lewis & Batey, 1982). They credited Engel (1970) for clarifying that autonomy exists as a "freedom" for professionals to practice in accordance with their education (Batey & Lewis, 1982). Furthermore, Batey & Lewis (1982) suggested that future instrument development studies should adopt their definition.

Another significant discussion of autonomy in the context of nursing and the organizations within which nurses practice was presented by Singleton and Nail (1984). Two issues of concern related to autonomy were identified: 1)

Nurses typically under use the autonomy available to them in the delivery of care, and 2) if full autonomy within an organization were ever granted to nurses, the organization would collapse because it "cannot function as a house of completely independent agents" (Singleton & Nail, 1984, p. 128). Inter-disciplinary relationships, as found in hospitals, place constraints upon individual autonomy, yet the result is movement toward institutional goals (Singleton & Nail, 1984). That is, movement toward goals is determined not by individuals, but can be traced to many individuals who participated in forming the goal's premises (Singleton & Nails, 1984).

Scearse (1989) describes the concept of autonomy as the liberty to select an action and the freedom to independently pursue that action. Scearse (1989) cautions that in the achievement of greater autonomy, other autonomous agents must be respected, that is, "...true liberty cannot be gained at the expense of the autonomy of others (p. 237)." Though Singleton and Nails (1984), and Scearse (1989) discussed important issues related to autonomy, their definitions do not add to the empirical study of autonomy beyond the earlier work of Lewis & Batey (1982).

In contrast, the Hinshaw et al. (1987) study supported predictions that both CONP and autonomy are important satisfiers that reduced anticipated nursing turnover.

Autonomy was defined as individual decision-making within every day nursing practice (Hinshaw et al., 1987). CONP was concerned with control in areas of; 1) utilization of research, 2) access to ideas, 3) interpersonal influence, 4) evaluation of practice, 5) resources, and 6) nursing practice (Atwood & Hinshaw, 1982). Findings of their large scale study supported the predicted effects (Hinshaw et al., 1987).

In a less rigorous national survey, 3500 nurses (78% staff nurses) reported their opinions about what keeps nurses in nursing (Huey & Hartley, 1988). The convenience sample resulted from those who chose to respond to the survey offered in the June, 1987, issue of The American Journal of Nursing. The results support previous and more rigorous studies; that is, organizational factors topped the list of dissatisfiers of those intending to leave their agency/nursing (Huey & Hartley, 1988). Unfortunately, the survey was preceded by rank order results of previous survey findings which may have influenced responses (Huey, 1987). No estimates of reliability or validity measures were reported. Interestingly, based on the number and variety of respondents they are likely to be representative of the current population of staff nurses and the findings may be valid.

McCloskey (1990) identified the lack of empirical studies related to nursing autonomy, and yet, restructuring of nursing practice is being implemented. McCloskey (1990) examined the effects of autonomy and social integration of nurses on job contentment among newly ( $N = 150$ ) employed nurses. The study used six small scales and measured the concepts at six, 12, and 16 months after the nurses were hired (McCloskey). Both autonomy and social integration were found to be important for job contentment of the newly employed staff nurse. Medical units with high patient to staff ratios had the lowest autonomy and social integration levels (McCloskey, 1990).

Seemingly related to autonomy and control over nursing practice are recent findings concerning a variable termed participation opportunity (Pooyan et al., 1990). The investigators sought to study the relative contributions of work-related and demographic variables to turnover intention of RNs. The three work related variables were role ambiguity, situational performance constraints, and participation opportunity. Participation opportunity was measured by Likert-type items that dealt with how much "say" respondents were perceived to have in making job decisions such as; 1) how to do one's job, 2) the sequence/speed of work, 3) the division of work responsibility, and 4) the amount of work.

The reliability coefficient (Cronbach's alpha) for the eight item, five point Likert type scale was .84 (Pooyan et al., 1990). The sample consisted of 579 (47% return rate) responses to a mailed survey to the home of every (N = 1,250) RN employed at three large private hospitals in an upper midwestern state (Pooyan et al., 1990). The respondents were evenly divided among the three hospitals and included 298 (55%) that were employed full time and 38% that had supervisory responsibilities (Pooyan et al., 1990). Regression analysis indicated that five of the six variables accounted for 36% of the variance in turnover intention (Pooyan et al., 1990). Participation opportunity accounted for the third largest percentage of variance ( $R^2 = .33$ ;  $p<.001$ ) (Pooyan et al., 1990). The investigators indicated that this was consistent with the findings of Hinshaw et al. (1987).

Although findings by Pooyan et al. (1990) are consistent with Hinshaw et al. (1987) and while the participation opportunity scale is intriguing, it may not adequately measure the domain of control over practice. Additionally, generalization of the findings is limited since randomization was not used and the sample included RNs with supervisory responsibilities which is dissimilar to previous studies of CONP.

Overall, autonomy has been described differently among several nursing studies. However, the literature also provides ample support that the concept of autonomy is integrally related to CONP. Autonomy has been found to be a major factor influencing job satisfaction among nurses (Pooyan et al., 1990).

#### Measuring Control Over Nursing Practice

Atwood & Hinshaw (1982) tested a scale to index nurses' control over clinical practice that was generated by the Conduct and Utilization of Research in Nursing (CURN) Project. The scale was later used in a 15 hospital study of anticipated turnover among hospital staff nurses (Hinshaw et al., 1987). Job satisfaction was positively influenced by CONP factors (Hinshaw et al., 1987) and the scale exhibited acceptable psychometric properties (Gerber et al., 1990). However, the clinical efficiency of the scale was limited for use in the study of professional practice models (Gerber et al., 1990).

Therefore, a new scale was developed to measure the content domain of perceived control related to the practice of professional nursing (Gerber et al., 1990). This new scale was developed in part from the characteristics of both current and projected professional nursing practice (NCNIP, 1987). To date, the unit of measurement for the CONP scale

has been the individual (Gerber et al., 1990; Verran, 1990). However, most nurses today work in hospitals and are aligned by unit or group and whose successful integration into the unit is important (McCloskey, 1990). Singleton and Nail (1984) discussed the shared decision-making process within hospitals that is a component of autonomy and the freedom to control one's practice. Furthermore, York & Fecteau (1987) reported that the nurse's sense of autonomy and control over practice was increased by establishing participative decision-making as a component to the nursing unit-level organizational structure. To summarize, control over nursing practice is probably perceived by nurses individually, but is reflective of the structured activities within the staff nurse working group.

The current CONP scale, which is operationalized at the individual level, is not a sufficient measure of CONP at the unit-level of organization (Verran, 1990). The appropriate level of measurement is the eventual level of generalization (Sirotnik, 1980). Clearly, it will be important to measure CONP at the unit level to assess the work group perceptions of control over nursing practice (Verran, 1990).

#### Summary

Literature supports the concepts and proposed relationships within the theoretical framework. Two

concepts, individual-level CONP and unit-level CONP were predicted to be positively related to work satisfaction. Autonomy is integrally related to CONP. Available scales to measure the concepts are limited and/or do not adequately measure at the appropriate level of analysis. Further instrument development to measure the concept of CONP at the unit level of analysis is warranted. Knowledge of unit-level CONP would enable improved evaluation and implementation of retention strategies designed for the unit/hospital setting.

## CHAPTER THREE

### RESEARCH METHODOLOGY

The study design, setting, data collection protocol, sample, instrumentation, and protection of human rights, are described in the first section of this chapter. In the middle, the study limitations and assumptions are presented. The data analysis plan is described in the final section.

#### Study Design

A descriptive survey design was used to estimate the intraclass correlation coefficient (ICC), the internal consistency reliability, and the construct validity of the individual-level and the unit-level versions of the CONP scale. Testing of the two CONP scales was conducted with a convenience sample of hospital staff nurses working as individuals on a unit and in groups.

#### Setting

The setting consisted of two urban acute care hospitals located in the southwest. Data were collected during the middle two weeks of November, 1991. Hospital A had 17 inpatient units with a targeted sample of 355 inpatient staff RNs who received the questionnaires. Hospital B had 10 inpatient units with a targeted sample of 166 inpatient

staff RNs who received the questionnaires. At Hospital B, a Joint Commission for the Accreditation of Hospital Organizations (JCAHO) visit was completed during the first week of November, 1991. In each hospital one member of the nursing department was designated as a study facilitator. The role of the facilitator included 1) coordinating the hospital approval process for the study, 2) compiling a list of eligible staff nurses, 3) distribute questionnaires, 4) receive completed questionnaires and notify investigator for pickup of the questionnaires, and 5) serve as the investigator's point of contact for the respective hospital.

#### Data Collection Protocol

A list of potential subjects was provided to the investigator from the Project Facilitator at each agency. Each Facilitator produced a listing of all nurses employed at their respective hospital that met the minimum study criteria. Prior to data collection, the project was announced to the staff by way of a posted announcement on each unit and/or verbally in staff meetings. Both methods included a brief discussion of the purpose of the study, the voluntary nature of the study, and how anonymity would be maintained. The voluntary nature of the subject's participation was included in the disclaimer on the cover sheet for the questionnaire (Appendix F). The cover sheet

described; 1) the study and it's requirements, 2) how confidentiality would be assured, 3) that employment would not be affected, 4) that there are no known risks, 5) that withdrawal from the study could occur at any time, and 6) that consent to participate is indicated by responding to the questionnaire.

The questionnaires were distributed to subjects directly while they were on duty, or via mail boxes on the unit of assignment. Subjects were encouraged to complete the questionnaire while on duty and in a quiet location such as a conference room on the unit. Subjects were instructed to seal completed questionnaires inside the envelope that was provided. Questionnaires were then collected on the unit, and returned anonymously to a centralized location in the agency via the hospital's distribution system. The investigator was notified by the respective Facilitator when it was time to pick up the completed questionnaires.

#### Description of the Sample

The convenience sample for this study was composed of licensed registered nurses employed as staff nurses in Hospitals A and B. The criteria for inclusion of subjects was: 1) English speaking, 2) licensed to practice as a registered nurse, and 3) assigned to practice in an inpatient unit. The criteria for inclusion were consistent

with samples used in previous testings of the individual-level version of the CONP scale. Only RNs were selected because professional nursing practice was the phenomenon that is of interest. LPNs and nurse assistants or nurse extenders were not included because their practice is under the direction of or is delegated by the RN. Hospital staff nurses, particularly medical-surgical nurses and critical-care nurses, have been identified previously as posing a significant retention problem (Hinshaw et al., 1987).

The unit-level version of the CONP scale contained 21 items. Therefore, a conservative estimate of 10 subjects per item ( $N=210$ ) was anticipated as an adequate sample size to estimate the psychometric properties of the scale (Burns & Groves, 1987). Additionally, a large representation of subjects was necessary to analyze data at the organizational level of analysis (Glick, 1985). Therefore, for the unit-level CONP data analysis, representation by a minimum of 50% of a unit's staff was deemed minimum criteria for inclusion in the study. That is, a total of at least 210 completed surveys alone would not assure an acceptable response rate. A 70% return rate was also desired.

Two hundred sixteen of the 521 questionnaires were returned for a 41% response rate. The investigator suspects that conducting a survey type project both shortly after a JCAHO visit and within two weeks prior to a major holiday

time period may have influenced the response rate. However, nine of the 27 units surveyed had a response rate of at least fifty per cent. Therefore, the actual sample consisted of a total of 91 inpatient staff nurses from the nine inpatient units with a response rate  $\geq$  50 percent. Three of these units were from Hospital A and six units were from Hospital B.

Demographic characteristics of the population sampled from both hospitals were similar and are shown in Tables 1, 2 and 3. The sample consisted of 89 females and two males with a mean age of 40 (s.d. = 8.5) years, with a range of 24 to 61 years. Mean number of years employed at their respective hospital was eight years (s.d. = 6.0), with a range of nine months to 25 years (mode = two years). The average number of years employed as a RN was 13.2 (s.d. = 9.2). The average number of hours scheduled to work per week was 38 (s.d. = 10.5).

Educational preparation and professional certification background information is presented in Table 2. Basic preparation in nursing was as follows: 36 (40%) had an associate degree, 28 (31%) had a diploma, and 26 (29%) had a baccalaureate degree. The highest level of educational preparation achieved was largely similar to the basic level of nursing preparation; that is, 36 (40%) with associate degrees and 26 (29%) with baccalaureate degrees was

**Table 1****Demographic Data (n = 91)**

	n	%
<b><u>Location</u></b>		
Hospital A	31	34
Hospital B	60	66
<b><u>Gender</u></b>		
Female	89	98
Male	2	2
<b><u>Unit Number/Practice Area</u></b>		
1/Intensive Care Unit (ICU)	15	17
2/Coronary Care Unit (CCU)	10	11
3/Special Care Nursery	7	8
4/Orthopaedics	7	8
5/General Surgical	9	10
6/Urology/Respiratory	8	9
7/Labor and Delivery	12	13
8/Oncology	10	11
9/Pediatrics	13	14

**Table 2****Educational Preparation and Certification Data**

	<b>n</b>	<b>%</b>
<b><u>Basic Educational Preparation in Nursing</u></b>		
Diploma	28	31
Associate Degree	36	40
Baccalaureate Degree	26	29
Missing Data	1	1
<b><u>Highest Educational Preparation Completed To Date</u></b>		
Diploma	22	24
Associate Degree	36	40
Baccalaureate Degree	26	29
Baccalaureate Degree (non-nursing)	3	3
Master's Degree (nursing)	2	2
Master's Degree (non-nursing)	1	1
Missing Data	1	1
<b><u>Professional Certification</u></b>		
None	76	84
CCRN	3	3
other	4	4
Missing Data	7	8

**Table 3****Age and Nursing Employment Background Data**

Source	Mean	Value	S.D.	Range
<b>Age in Years</b>	40.0		8.5	24.0-60.0
<b>Time Employed at the present hospital in Years</b>	8.0		6.0	<1.0-25.0
<b>Years Employed as an RN</b>	13.2		9.2	1.0-36.0
<b>Hours Scheduled to work per week</b>	38.0		10.5	24.0-40.0

unchanged; 22 (24%) with a diploma was a decrease of only 4%. Eight ( $n = 7$ ) percent had degrees in addition to or higher than the baccalaureate level; 2 (2%) held master's degrees in nursing, 1 (1%) had a non-nursing master's degree, and 3 (3%) had a non-nursing baccalaureate degree. Seven RNs (7%) reported having current professional certification; critical care nurse certification (CCRN) was listed most frequently ( $n = 3$ ). Thirty-two (35%) of the RNs were from three critical care type inpatient units in hospital B.

Data related to the age and the employment background of the sample is presented in Table 3. The data is representative of acute care hospitals and is consistent with the background of subjects from similar studies.

#### Instrumentation

The unit-level version of the CONP scale (Appendix B) is a paper and pencil, 21 item instrument that was developed to specifically measure the group's perceived freedom to evaluate and modify nursing practice, to make autonomous decisions related to a patient's care, and to influence the work environment and staffing at the unit level of organization (Gerber et al., 1990). The new scale includes a second response option titled "Group" in addition to the

original response option which states, "As a nurse, I am free to ..." The new response option states, "As a group of nurses on this unit we are free to..." The response format for each item is a forced choice, seven option Likert-type, with a numerical range from 1 (disagree) to 7 (agree).

For this study, three related questions (Appendix B, items #22 to #24) were asked. Each question addressed control over nursing practice on the unit and were related to attitudinal autonomy. Question #24 in particular, asked for a response indicating the nurse's opinion of who influences (structural) control over practice. Following the CONP questionnaire was a space for the subject to make comments, if desired. These comments served as additional qualitative data of interest to the investigator and to the participating nurses in the hospitals.

The second tool was the Work Satisfaction Scale (WSS), a 30-item seven option forced choice Likert-type response format adapted from the 44-item Stamps and Piedmont (1986) Index of Work Satisfaction (Appendix C). Cronbach's coefficient alpha reliability was reported to be .82 on the final validation study of the 44-item test scale, which is very good (Stamps & Piedmont, 1986). The tool was included in this study for the purpose of determining the construct validity of the CONP scale.

Limited demographic and attribute information was obtained on a nine-item "Participant Profile Information" section following the WSS (Appendix C). The additional data was related to the educational preparation and professional experience of the subjects. Participant profile information was used to describe the sample.

#### Protection Of Human Rights

The rights of the subjects were protected in accordance with guidelines established by the University of Arizona Human Subjects Committee, from which approval for conducting this study was obtained (Appendix D). Approval was obtained from each of the two hospitals (Appendix E).

#### Limitations

The primary purpose of this study was to investigate the reliability and validity of the new unit-level version of the CONP scale. Gerber's individual-level CONP scale had demonstrated acceptable validity when the unit of analysis was the individual (Verran, 1990). Therefore, for the expressed purpose of instrument development there were several limitations in this study. Known limitations can be categorized into the areas of external validity and internal validity. Each area will be addressed, and factors that will not be controlled will be identified.

External validity represents the generalizability of the results to the entire population of interest in all settings (Burns & Grove, 1987). Potential subjects were identified from two conveniently selected settings. Therefore, there is no guarantee that the sample will be representative of all hospital inpatient staff nurses. As a result, it may be inappropriate to infer results of this study to the population of inpatient staff nurses as a whole.

Internal validity refers to the inference that the controlled treatment is responsible for the observed effects rather than uncontrolled, or extraneous factors (Burns & Groves, 1987). Though the actual instrument was titled "Opinions About Nursing Practice," the cover sheet title was "Control Over Nursing Practice..." Since Control Over Nursing Practice is not part of common nursing language, the effect of these words upon subject responses should be minimal.

Another issue was the side-by-side arrangement of the response columns ("Individual" and "Group") (Appendix B). The questionnaire directions (Appendix B) clearly identify these differences. However, errors in responses may have occurred. It is conceivable that nurses may not have been able to discriminate in their responses between the individual and the group level response options. Therefore,

the effect of the side-by-side arrangement was unknown. Additionally, one half of the questionnaires had the CONP scale first and the other half had the WSS first. This method was selected to control for any influence upon responses due to the ordering of the two scales.

#### Assumptions

Four methodological assumptions were identified. They included: 1) Subjects would receive the questionnaire with adequate time to respond appropriately, 2) subjects would participate voluntarily, without agency influence which may be perceived as an obligation to participate, 3) subjects would complete the questionnaire during a quiet and uninterrupted time period, and 4) subjects would provide their honest opinions.

Major assumptions concerning measurement of the concept of control were also made. First, the investigator assumed that staff nurses perceived varying amounts of control over nursing practice within an agency; that is, perceived CONP was expected to vary both over time and among individuals and/or among groups. Second, the investigator assumed that self report as a means to measure CONP is a valid and more efficient approach than alternative measurements such as examining the organizational structure or directly observing nursing practice behaviors (Tannenbaum, 1968). Third, RNs

within the agency were assumed to be able to provide reasonably reliable and valid data (Tannenbaum, 1968).

#### Data Analysis Plan

Descriptive statistics were used to analyze the participant profile information. Data were analyzed using the SPSS/PC+ statistical package available in the Data Lab at the College of Nursing, University of Arizona. The .05 probability level was established to determine statistical significance.

Reliability is concerned with the extent that the measurement technique consistently measures the concept of interest (Burns & Groves, 1987). Homogeneity (internal consistency) of the items on the CONP scale was estimated using Cronbach's alpha. The acceptable criterion was set at an alpha coefficient  $\geq .80$ .

A type of intraclass correlation coefficient was used to provide a measure of the reliability of the aggregated scores when generalizing to the level of the nursing unit (Glick, 1985). To determine the ICC, the preferred method using each of the nine inpatient unit mean CONP scale values was employed. The criterion for a satisfactory coefficient value was  $r \geq .60$  as recommended by Glick (1985). The intraclass correlation coefficient was computed for both the individual version and the group version of the CONP.

Validity was defined as the extent to which an instrument measures what it is intended to measure (Zeller & Carmines, 1980). Content validity of the individual-level version of the CONP scale was previously determined (Gerber et al., 1990) and is assumed to be the same for the new unit-level version of the scale. The other two major approaches to measuring validity were criterion related and construct (Nunnally, 1978).

Construct validity is concerned with the theoretical relationship of one variable to some other variable; the extent to which a measure performs with regard to established measures of other constructs (Devellis, 1991). Multiple regression is a method for analyzing the relationship between a dependent (or criterion) variable and a set of independent (or predictor) variables (Burns & Groves, 1987). Therefore, multiple regression was used to test the impact of perceived control over nursing practice on satisfaction as an index of construct validity. The results of the test was assessed relative to the theoretical underpinnings and the empirical outcomes of similar tests in other studies. Construct validity was also determined with the use of confirmatory factor analysis. The criterion for factor loadings was  $\geq .40$ .

### Summary

A descriptive survey design was used to describe perceived control over nursing practice at both the individual-level and the group-level of analysis, and to determine the reliability and validity of a new unit-level version of an existing CONP scale. Criteria and selection methods for inclusion of participants in the study were defined. The setting was composed of a total of 27 inpatient units at two urban acute care hospitals located in the southwest. The actual sample was comprised of 91 inpatient staff RNs from nine inpatient units. The protection of human subjects in this study was discussed. The individual-level and the new unit-level CONP scale, and the WSS were described. Known and anticipated limitations and assumptions to the study were identified. Last, the data analysis plan for the study was described.

## CHAPTER IV

### RESULTS OF ANALYSIS OF DATA

The results of the data analysis are presented in Chapter Four. Estimates of reliability and validity of the instruments are described. The results of correlational coefficients, regression and factor analysis are presented.

#### Analysis of Group Level Data

Discussions of assessing the reliability of organizational level data have been controversial (Glick, 1985). For example, the mean rater reliability has received considerable attention in the literature as discussed by Glick (1985). Analysis of group level data is preferred over aggregated data collected from a sample of individual raters. The intraclass correlation (ICC) should be interpreted as the lower bound estimate of the mean rater reliability of the aggregated score (Glick, 1985; Shrout & Fleiss, 1979), and is considered the primary statistic for analysis for this study. In this study, only nine groups (as represented by nine inpatient units) of the 27 possible target groups of inpatient staff RNs met the criterion of at least a 50 percent response rate for inclusion in this study. Therefore, nine groups of aggregated data from the

RNs employed on each of the nine inpatient units were used for the important ICC coefficient.

#### Scale Means and Standard Deviations

The mean responses by subjects for both the individual and the group-level CONP scales, as well as the total WSS item means are presented in Table 4. The WSS was included primarily for the purpose of estimating construct validity. Since the WSS subscales were not the focus for this study they were not analyzed, and will not be reported.

The seven Likert-type response options for the individual-level CONP, unit-level CONP and the WSS ranged from 1-Disagree to 7-Agree. A mean score of 4.0 would represent the middle value between dissatisfied and satisfied. The mean item score for the individual-level CONP scale was 5.036 (s.d. = 1.048). The mean item score for the group-level CONP scale was 4.968 (s.d. = 1.070). That is, the RNs both as individuals and as groups, reported that they rated control over nursing practice as being above the midline between dissatisfied and satisfied. The 30 item work-satisfaction scale (WSS) had six subscales, and had the same Likert-type response options as the CONP scales. The mean item score for the WSS was 3.932 (s.d. = .656), thereby, the RNs reported that their work satisfaction was

very close to the midline between satisfied and dissatisfied.

#### Research Question #1

The first research question asked: What is the estimated internal consistency reliability of the CONP scale when revised to reflect hospital staff nurse opinions as a work group? Reliability coefficients are presented in Table 4. These data are based upon aggregated individual level data due to the small numbers of units ( $n = 9$ ) of group-level data. That is, internal consistency reliability (Cronbach's alpha) estimates are not practical with such a small sample size. Therefore, the investigator chose to use the sufficient sample of aggregated individual level data. Limitations of using this method are discussed in an additional section. The 21-item individual-level CONP scale reliability coefficient for 21 items had a standardized item alpha of .9468 ( $n = 79$ ), with item-total correlations ranging from .4409 to .7643. Using aggregated individual data, the group-level CONP scale reliability coefficient for 21 items had a standardized item alpha of .9560 ( $n = 77$ ). Both versions of the CONP scale exceeded the criteria of  $\geq .80$ . Therefore, the group-level CONP scale demonstrated acceptable internal consistency reliability in this initial administration of the tool. The group-level CONP item-total

**Table 4**  
**Reliability Analysis**

Scale Name	Item Mean	S.D. <sup>a</sup>	Alpha	Std. Alpha	Number of Subjects
CONP <sup>b</sup>	5.0356	1.048	.9449	.9468	21
CONP <sup>c</sup>	4.9678	1.070	.9548	.9560	21
WSS <sup>d</sup>	3.9325	0.656	.8601	.8601	30

S.D.<sup>a</sup> - Standard Deviation

CONP<sup>b</sup> - Individual-Level Version CONP (n = 79)

GCONP<sup>c</sup> - Group-level Version CONP (n = 77)

WSS<sup>d</sup> - Work Satisfaction Scale (Stamps & Piedmont, 1986) (n = 76)

correlations ranged from .3571 to .7950. The item-total correlation for only one item (#18) was below  $r \geq .40$ ; the item-total  $r$  for item # 18 was .3571. The reliability coefficient for the 30 item WSS yielded a standardized item alpha of .8601 ( $n = 76$ ), which exceeds the generally accepted criterion of  $\geq .80$  for widely used scales (Carmines & Zeller, 1979).

#### Research Questions #2 and #3

The very important second and third research questions asked what are the estimated intraclass correlation coefficients and how different are those values for the individual version and the unit-level version of the CONP scale when used with hospital staff nurses? The purpose of the second and third research questions was to study the reliability of the two versions of the CONP instrument at the organizational level of the group. Therefore, a form of the intraclass correlation, ICC (1,k), was used as an index of the organizational level reliability (Shrout & Fleiss, 1979). The acceptable reliability criterion for this study was an ICC of  $\geq .60$  (Glick, 1985). According to Shrout & Fleiss, (1979), there are other forms of the intraclass correlation; however, they are different in that they "require observation of all organizations (targets) by all raters and are generally inappropriate for organizational research" (Glick, 1985). In this study the formula used was

$ICC(1,k) = (BMS - WMS)/BMS$  (Table 5). BMS was the mean squares between organizations, while the WMS was the mean squares within organizations (Shrout & Fleiss, 1979). The group-level version of the CONP scale met the established ICC criteria for organizational level data ( $\geq .60$ ) with a value of  $> .657$  ( $n = 76$ ). Interestingly, the individual version did not meet the criteria with an ICC coefficient value of .508 ( $n = 78$ ) (Table 5). The difference between the two ICC estimates was .149. That is, the reliability estimate of the unit-level version of the CONP scale clearly exceeded the individual-version of the CONP scale. This significant finding suggests that the two versions of the CONP scale measure different concepts. Additionally, the unit-level version of the CONP scale met the reliability criteria for group level data.

#### Research Question #4

The fourth research question asked: What is the construct validity of the group-level CONP scale when used with hospital staff nurses? Predictive validity was estimated using a multiple regression technique. According to criteria presented by Munro (1986), the findings from multiple regression analysis of the aggregated individual data suggested a moderate impact of each of the independent variables of individual-level CONP ( $Beta = .633$ )

**Table 5****Intraclass Correlation Coefficient (n = 9 Groups)**

<b>Source</b>	<b>BMS<sup>a</sup></b>	<b>WMS<sup>b</sup></b>	<b>ICC<sup>c</sup></b>
Individual-Level CONP	2.0177	.9937	.5075
Group-Level CONP	2.7749	.9526	.6567

**BMS<sup>a</sup>** - Between Groups (Organizations) Mean Squares as Determined by Oneway Analysis of Variance.

**WMS<sup>b</sup>** - Within Groups (Organizations) Mean Squares as Determined by Oneway Analysis of Variance.

**ICC<sup>c</sup>** -  $(BMS - WMS)/BMS = ICC(1,k)$  Intraclass Correlation Coefficient Statistic (Shrout & Fleiss, 1979).

and unit-level CONP (Beta = .679) on the dependant variable work satisfaction (Table 6). This finding is consistent with previous testings of the individual-level CONP scale (Gerber et al, 1991). Individual level CONP accounted for 40% of the variance ( $R^2 = .401$ ) in work satisfaction while the effect of group level CONP was slightly higher, accounting for 46% of the variance ( $R^2 = .460$ ) in work satisfaction (Table 6). The finding that group-level CONP accounted for a higher degree of variance upon work satisfaction supports the conceptualization of group-level CONP as being different than individual-level CONP. However, this finding was based on aggregated individual level values. Analysis would be strengthened by using a larger sample size of nursing units and group level data.

Factor analysis is the most important statistical tool for validating the structure of an instrument (Munro, 1986). A factor is a group of items that are part of an instrument that may be said to "go together" (Munro, 1986). The acceptable criterion for loading of factors was set at  $\geq .40$ . All 21 items on both versions of the CONP scale exceeded the .40 criteria for a single factor matrix (Table 7). That is, there were no subscales for the group-level CONP scale. These findings are consistent with those of the individual-level CONP scale (Gerber et al., 1990).

**Table 6**

**Multiple Regression Analysis: Effects of Individual-Level  
and Group-Level Control Over Nursing Practice on  
Work Satisfaction Scale. (n = 69)**

Variable	Multiple R	R Square	Beta
CONP <sup>a</sup>	.63302	.40071	.633017
GCONP <sup>b</sup>	.67852	.46039	.678523

CONP<sup>a</sup> - Individual-Level CONP

GCONP<sup>b</sup> - Group-Level CONP

#### Research Question #5

The fifth research question asked: To what extent does the unit-level measure of perceived control over nursing practice predict work satisfaction among groups of hospital staff nurses? Multiple regression analysis was computed (Tables 8 and 9) on the aggregated data from the three critical care nursing units (CCU) and results were compared to results from the six medical-surgical nursing units (MSU). Beta values for the group-level CONP responses were .614 and .657 for the CCU and the MSU areas respectfully (Table 8). For the Individual level data the Beta values were .615 and .594 for the CCU and the MSU areas respectfully (Table 9).

The  $R^2$  values ranged from .3528 to .4319 (Table 8). Overall, the group-level CONP data moderately predicted work satisfaction among CCU and MSU assigned staff nurses. The extent of the explained variance was 38% ( $R^2 = .3772$ ) for the CCU staff and 43% ( $R^2 = .4319$ ) for the MSU staff (Table 8). These findings suggest that for the MSU staff, group-level CONP explained somewhat more of work satisfaction when compared to the CCU staff. Using aggregated individual-level data, the differences were reversed and smaller (Table 9). Because of the few nursing units (groups) available for study and a concomitant need to use aggregated

**Table 7****Principle Components Factor Loadings: Individual- and Group-  
Level Control Over Nursing Practice**

Item #	Factor Matrix for: Individual	Group
	CONP	CONP
1	.70	.70
2	.62	.64
3	.56	.60
4	.64	.70
5	.71	.75
6	.77	.73
7	.74	.71
8	.71	.79
9	.75	.82
10	.75	.78
11	.68	.71
12	.74	.82

**Table 7 (continued)****Principle Components Factor Loadings: Individual- and Group-  
Level Control Over Nursing Practice**

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<b>Item #</b>	<b>Factor Matrix for: Individual</b>	<b>Group</b>
	<b>CONP</b>	<b>CONP</b>
13	.74	.80
14	.79	.79
15	.71	.70
16	.73	.82
17	.78	.79
18	.48	.46
19	.72	.76
20	.55	.66
21	.72	.81

---

**Table 8****Multiple Regression Analysis of Group-Level CONP Data:**

**Comparison of Critical Care Nursing Units (CCU) and Medical-Surgical Nursing Units (MSU)**

Source	n <sup>a</sup>	GCONP <sup>b</sup>	WSS <sup>c</sup>	Beta	R Square
CCU	24	5.406	4.191	.6142	.3772
MSU	43	4.687	3.777	.6572	.4319

**n<sup>a</sup> - Number of Subjects**

**GCONP<sup>b</sup> - Mean Group-Level CONP Value**

**WSS<sup>c</sup> - Mean Work Satisfaction Scale Value**

**Table 9****Multiple Regression Analysis of Individual-Level CONP Data:  
Comparison of Critical Care Nursing Units (CCU) and Medical-Surgical Nursing Units (MSU)**

Source	n <sup>a</sup>	CONP <sup>b</sup>	WSS <sup>c</sup>	Beta	R Square
CCU	24	5.364	4.191	.6148	.3780
MSU	43	4.787	3.777	.5940	.3528

**n<sup>a</sup> - Number of Subjects****CONP<sup>b</sup> - Mean Individual-Level CONP Value****WSS<sup>c</sup> - Mean Work Satisfaction Scale Value**

individual data for analysis, these findings must be interpreted cautiously.

#### Additional Findings

Three subjective questions were asked (Appendix B, items #22-24) to acquire additional information regarding the construct of group-level control over nursing practice. For question #22, 43 percent of those RNs surveyed ( $n = 88$ ) reported control over nursing practice as being highly important (rated 10 on a scale of 1 [low] to 10 [high]); and approximately 85% ( $n = 75$ ) of the nurses reported control over nursing practice was at least an eight on the 10 point scale (Table 10). Similarly, for question #23, 46% of those surveyed reported that as a unit they generally wanted a high (rated 10 on a scale of 1 [low] to 10 [high]) amount of control over their nursing practice (Table 11).

The third subjective question (#24) asked the RN to identify a single organizational entity that was the most influential in determining the amount of control over nursing practice within the nursing unit (Table 12). Of those responding, 36.1 percent ( $n = 30$ ) selected unit managers/unit directors as being most influential. Staff nurses/peers was identified by 8.1 percent ( $n = 7$ ). Additionally, nearly 27.7 percent ( $n = 23$ ) reported hospital and/or nursing administrators as being most influential,

**Table 10**

**Frequencies for CONP Question #22: How important is it for you to have control over your nursing practice? (n = 88)**

<b>Value*</b>	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>
5	4	4.4	4.5
6	2	2.2	2.3
7	7	7.7	8.0
8	17	18.7	19.3
9	19	20.9	21.6
10	39	42.9	44.3
<b>Missing</b>	<u>3</u>	<u>3.3</u>	<u>--</u>
<b>Totals</b>	<b>91</b>	<b>100</b>	<b>100</b>

**Value\* - Possible Range: 1 (Low) to 10 (High)**

**Table 11**

**Frequencies for CONP Question #23: How much control would you generally like to have over your nursing practice?**  
**(n = 91)**

<b>Value*</b>	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>
3	1	1.1	1.2
4	0	0.0	0.0
5	6	6.6	7.1
6	0	0.0	0.0
7	4	4.4	4.7
8	13	14.3	15.3
9	19	20.9	22.4
10	42	46.2	49.4
<b>Missing</b>	<u>6</u>	<u>6.6</u>	<u>--</u>
<b>Totals</b>	<b>91</b>	<b>100</b>	<b>100</b>

**Value\* - Possible Range: 1 (Low) to 10 (High)**

while 22.9 percent ( $n = 19$ ) reported physicians as having the most influence in determining the amount of control over nursing practice on a unit. Four responses were in the category of "other" and accounted for less than five percent of the total responses (Table 12).

#### SUMMARY

Analysis of survey results are based on the convenience sample of 91 subjects. The research questions were answered using the aggregated responses from individual subjects. For the more important issue of organizational level reliability the ICC for the unit-level CONP scale (.6567) exceeded the criterion of  $\geq .60$ , and the ICC for the individual-level CONP scale (.5075) did not meet the criterion.

Because of the small number ( $n = 9$ ) of nursing units available for conducting a group-level analysis, the additional analyses were limited by the small sample size and those results must be interpreted cautiously. Both the individual and the group-level versions of the CONP scale demonstrated adequate scale internal consistency reliability, and validity estimates when using data which was collected from individual staff nurses. The unit-level CONP scale positively impacted work satisfaction as predicted when using individual-level data analysis. The

**Table 12**

**Frequencies for CONP Question #24: Which one of the following groups is most influential in determining the amount of control you have over your nursing practice?**

(n = 91)

<b>Value</b>	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>
1-Unit managers/ unit directors	30	32.9	36.1
2-Staff nurses/ peers	7	7.7	8.4
3-Physicians	19	20.9	22.9
4-Hospital and/or nursing administrators	23	25.3	27.7
5-Other*	4	4.4	4.8
<b>Missing</b>	<u>8</u>	<u>8.8</u>	<u>--</u>
<b>Totals</b>	<b>91</b>	<b>100</b>	<b>100</b>

5-Other\* - a) "Budget/\$\$ determines pt/nurse ratio and chance to be creative," b) "JCAH(sic)/State Bds," c) "Myself," and d) "Time to plan and review pt Hx needs."

factor analysis of the group-level CONP mean values were used to validate the unidimensional structure of the newer scale.

Additional findings were discussed. Responding subjects reported control over nursing practice as being highly important, and as a unit they generally wanted a high amount of control over their nursing practice. Last, nurses ( $n = 82$ ) identified a single organizational entity that was the most influential in determining the amount of control over nursing practice within the nursing unit as follows; unit managers/unit directors, 36.1 percent ( $n = 30$ ), hospital and/or nursing administrators, 27.7 percent ( $n = 23$ ), physicians, 2.93 percent ( $n = 19$ ), and staff nurses/peers, 8.1 percent ( $n = 7$ ).

## CHAPTER V

### INTERPRETATIONS AND IMPLICATIONS

The interpretation of the findings are presented in this chapter. Limitations of the study are discussed, and the implications for nursing practice and nursing research are presented.

#### Interpretation of the Findings

##### Research Questions

Results related to the first research question, "What is the estimated internal consistency reliability of the CONP scale when revised to reflect hospital staff nurse opinions as a work group?", suggested that when using the aggregated data from individual subjects, the group-level CONP scale demonstrated acceptable internal consistency reliability during this initial administration of the tool. In fact, the alpha value for the 21 item scale exceeded the .80 level generally reserved as a minimum criterion for widely used scales (Carmines & Zeller, 1979). The reliability of the scale during this initial testing is consistent with previous uses of the scale (Gerber et al., 1990). Though the internal consistency reliability of the scale is encouraging, this is an initial testing from a convenience sampling where the response rate averaged 41% of

the targeted sample. Therefore, the findings may only be valid for those who chose to answer the survey and they may not be representative of RNs in general. Additionally, findings would be expanded if internal consistency reliability were conducted using group-level data.

The second research question asked "What are the estimated intraclass correlation coefficients for the individual version and the unit-level version of the CONP scale when used with hospital staff nurses?" Findings related to this important question demonstrated that the group-level version of the CONP scale did indeed meet the established ICC criteria for organizational level data ( $\geq .60$ ) with a value of  $> .657$ . As expected, the individual version did not meet the criteria with an ICC coefficient value of .508. As recommended by Glick (1985), this analysis was based upon individually reported data that was aggregated by unit (group) for the statistical analysis. The investigator is pleased with the finding which suggests that the revision of the individual level CONP scale to reflect the organizational level of interest (the nursing unit) resulted in an acceptable reliability coefficient. The finding that the individual-level CONP scale did not meet the established ICC criteria is consistent with a previous analysis (Verran, 1990).

Results related to the third research question, "How different are the intraclass correlation coefficients when the individual and unit-level versions are compared?", support the viewpoint that the unit of analysis is different for the two CONP scales. The ICC difference was .149. This is another important finding. This finding suggests that the instruments are measuring different concepts, which is consistent with the framework for the study. Significant limitations will be discussed in the next section.

Findings related to the fourth research question, "What is the construct validity (factor structure) of the group-level CONP scale when used with hospital staff nurses?", suggest that the scale is unidimensional. This finding, based on factor analysis, is consistent with testing of the individual-level CONP scale. Due to the small sample size ( $n = 91$ ) used for testing the 21 item CONP scale this finding should be interpreted cautiously. Additional study is indicated. The preferred method would be to use group-level data from a large sample consisting of several nursing inpatient units.

Additionally, multiple regression analysis (Table 6) indicated that the group level scale accounted for a slightly higher (46% compared to 40% for the individual-level CONP measure) amount of the variance or impact upon work satisfaction. Though the differing degrees of

prediction between the two scales appear not to be significant, the investigator is encouraged with this finding which indicates that group-level CONP is different. Furthermore, the sample size is small, the preferred method would be to use group-level data from a large sample consisting of RNs from several inpatient units. In summary, additional study is indicated to determine if measuring CONP at the group-level is the preferred level of measurement.

Results related to the fifth research question, "To what extent does the unit-level measure of perceived control over nursing practice predict work satisfaction among groups of hospital staff nurses assigned to critical care or specialty care units and medical-surgical units?", indicate that the group-level CONP scale modestly predicts work satisfaction among the two distinct groups of nursing units that were chosen for analysis. The sample size for this kind of analysis needs to be much larger. The investigator anticipated a larger response rate, therefore, the findings related to the fifth research question is of very limited value.

#### Additional Findings

Results related to the three subjective questions (Table 10, 11 and 12) provide additional information regarding the construct of group-level control over nursing

practice. The level or the degree of importance that control over nursing practice might have to the RN has not been described before in the literature. Clearly, the concept of CONP was important to the large majority of those surveyed (Table 10). Likewise, a high amount of control over nursing practice was generally desired by the RNs in this sample (Table 11).

Results concerning the third subjective question (Table 12) are both interesting and difficult to interpret. The question asked the RN to identify a single organizational entity that was the most influential in determining the amount of control over nursing practice within the nursing unit. The vast majority of responses (86%) were grouped into three choices; 1) Unit Managers/unit directors, 2) hospital and/or nursing administrators, and 3) physicians (Table 12). The choice of staff nurses/peers was selected by only eight percent of those responding. These results are curious to the investigator. The clear majority of staff RNs believed having a high degree of CONP as being important, and yet, the staff RN perceived three entities outside of direct nursing care as having the most influence upon CONP. Again, there is no previous data related to these findings known to the investigator. Senior nursing administrators at both hospitals reported that existing governance policies promote involvement by staff/nurses in

decision-making related to nursing practice at the level of the staff nurse. However, findings from question #24 indicate that staff nurses perceive unit managers, nursing administrators, and physicians as having more influence upon control over nursing practice than staff nurses (Table 12).

#### Limitations of the Study

Since, the focus of the study was upon instrument development, major limitations identified in this study are concerned with possible measurement error of the concept of CONP. Generalizability of findings was not within the scope of this project and is not discussed.

Aggregation fallacy is a term used to describe an issue related to aggregation of data from one level to make inferences about another level (Price & Mueller, 1986). One form of aggregation fallacy is labeled 'individualistic fallacy,' which refers to erroneously making conclusions about a group from data obtained from individual members of that group (Price & Mueller, 1986). For organizational climate studies this question has been debated most vociferously in the literature (Price & Mueller, 1986). "In particular, use of such aggregated measures is viewed as appropriate only if the respondents agree on the climate variable" (Price & Mueller, 1986, pg. 9). For this study, perceptions measured with item #24 (Table 12) indicate that

there was not agreement about what organizational entity was most influential in how much control the group of RNs had over their nursing practice. This suggests that there may not be agreement about the variable, CONP. In conclusion, there are theoretical and research concerns with the unit of analysis during the study of organizational factors (Price & Mueller, 1986). The preferred method of analysis was to use group-level data, that is, the means of each group (or unit) as the unit for analysis. Although the scale exceeded the important criterion (the ICC) for estimating the organizational level reliability, there were just nine inpatient units that had a minimally representative 50% response rate. Therefore, since the unit sample size ( $n = 9$ ) was small additional study is warranted.

Glick (1985) reported interpretation of the ICC assumes that a random selection of subjects, and an equal number of individual raters was used. Additionally, Glick (1985) recognized that even when the above assumptions are violated, the ICC is still the best aggregate level mean rater reliability statistic that can be reported in the literature. The investigator is encouraged that the group-level CONP scale exceeded the criterion for organizational level reliability as estimated by the ICC.

Due to the challenge of obtaining a sufficient sample size, the findings from this study may only represent the

perceptions of those (52%) who chose to respond. Actual perceptions of the concept of CONP could be significantly different as determined by a more representative sampling of RNs that would sufficiently represent several entire groups (or units) of staff nurses. For the purpose of further instrument development future testing of the group-level CONP scale should incorporate a sufficiently large randomized sampling technique. Additionally, the side-by-side arrangement of the CONP scales may have limited the ability for the RN to clearly discern the unit-level perception of CONP. This source of measurement error was believed to have been controlled by clearly written instructions. However, it is a limitation that in the future can be eliminated by administering only the group-level CONP scale.

#### Implications For Research

First, control over nursing practice has already been identified as an important concept to professional nursing practice. The continued refinement of a reliable and valid measure of the concept of CONP will result in a tool to monitor this professional issue as a variety of governance models are implemented. That is, this study contributed to the refinement of an organizational level measurement tool. Therefore, this study provided evidence that the changes

that were made to the individual-level CONP scale were congruent with efforts to more accurately measure the organizational level concept of CONP. Also, results from this study suggested that group-level CONP findings are measuring something that is different than individual-level CONP. This finding is important and is consistent with the framework for the study as supported by the literature. Additional testing of the scale is warranted to produce a clearly reliable, valid and efficient measure of group-level CONP.

This study also suggests that the construct is clearly important to staff nurses, and a high level of control over nursing practice is desired by inpatient staff RNs. However, at the two hospitals for this study, inpatient staff RNs perceived that the most influential organizational entity over CONP is not staff nurses or their peers. Future perceptions by nurses about what organizational entity has the most influence upon control over nursing practice at the unit level could be useful to nursing managers as well as to staff RNs. For example, within hospitals, the evaluation of an existing nursing governance model could be facilitated by surveying staff RNs about their perceptions as asked by CONP question #24 (Appendix B). Therefore, staff/nurse satisfaction with changes in the governance model could be measured. Furthermore, future progress of increasing and

promoting control over nursing practice as an index of autonomous practice and work satisfaction might be analyzed by longitudinal findings from the use of the group-level CONP scale. A related research question might be "Do organizational entities that are perceived to influence CONP differ based upon governance or management factors?"

The primary recommendations to further develop the CONP instrument are related to an increased number of sampling of units through a large randomized testing of the instrument within diverse models of nursing governance. The group-level CONP scale demonstrated very acceptable internal consistency reliability estimates. Data from this study also suggest the group-level CONP scale may measure the construct at the appropriate organizational level. Additionally, use of the side by side arrangement of the two CONP scales had an unknown impact upon data collection. Therefore a recommendation is made to distribute to 50% of the study sample the individual-version of the CONP scale, and the other 50% of the sample would receive the unit-level version of the CONP scale. This method would have required two times the number of respondents as the present study, thereby necessitating expansion of the study to two or more additional hospitals. This was determined inefficient for this study.

Last, organizational level research is one of the most important areas of research to provide knowledge related to efforts at improving nursing governance models. The continued development of professional practice models may greatly improve health care by providing efficient and effective use of nursing resources. The methodological pitfalls of instrument development are many, however, measurement of a concept at the appropriate level of analysis is a critical issue in organizational research.

#### Summary

The findings from this study provided support for the revised or unit-level CONP scale. The scale demonstrated acceptable reliability and validity estimates for an organizational level tool. Limitations of the study were related to the possibility that measurement error occurred due to the use of a convenience sample with a response rate of only 41% of the target sample. Though this study involved a small convenience sample, aggregated individual data suggest that the unit-level concept of CONP is different from individual-level CONP.

Implications for research were discussed. The primary recommendation is for a large randomized study that will achieve a high response rate that would enhance group-level analysis. Use of the side by side arrangement of the two

CONP scales had an unknown impact upon data collection. Therefore a recommendation is made to distribute to 50% of the study sample the individual-version of the CONP scale, and the other 50% of the sample would receive the unit-level version of the CONP scale.

In conclusion, additional study is warranted. The development of a measure of Unit-level CONP would benefit the continued study of professional practice in nursing. Furthermore, measuring the concept of CONP at the appropriate level of analysis will prevent an error of misspecification that is a critical issue in organizational research.

**APPENDIX A**

**INDIVIDUAL-VERSION OF THE  
CONTROL OVER NURSING PRACTICE SCALE**

I.D. # \_\_\_\_\_

## DIFFERENTIATED GROUP PROFESSIONAL PRACTICE IN NURSING

Control Over Nursing PracticeInstructions:

The following items represent opinions about your nursing practice. Please respond to each item. It is very important that you give your honest opinion. Please circle the number that most closely indicates how you feel about each statement.

The left set of numbers indicates degrees of disagreement. The right set of numbers indicates degrees of agreement. The center number means "undecided." Please use it as little as possible. The more strongly you feel about the statement, the further from the center you should circle, with disagreement to the left and agreement to the right.

Disagree Agree

1. I am free to evaluate current nursing

..... 1 2 3 4 5 6 7

outcomes

..... 1 2 3 4 5 6 7

TBS

..... 1 2 3 4 5 6 7

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**APPENDIX B**  
**UNIT-LEVEL VERSION**  
**OF THE CONTROL OVER**  
**NURSING PRACTICE SCALE**

I.D. # \_\_\_\_\_

## OPINIONS ABOUT NURSING PRACTICE

Directions: Please respond TWICE to each of the following statements by circling ONE number in EACH column which best indicates your own personal opinion.

Important: The FIRST column is related to your individual practice, while the SECOND column is related to the practice of the nurses on your unit as a group.

The LOWER numbers indicate degrees of disagreement; the HIGHER numbers indicate degrees of agreement. The more strongly you feel about the statement, the further from the center you should circle.

INDIVIDUALGROUP

As a nurse, I am free to:	As a group of nurses on this unit, we are free to:
---------------------------	--

	Disagree...Agree	Disagree...Agree
1. Evaluate current nursing policies	. . . . . 1 2 3 4 5 6 7	1 2 3 4 5 6 7
nursing	. . . . 1 2 3 4 5 6 7	1 2 3 4 5 6 7
ng	. . 1 2 3 4 5 6 7	1 2 3 4 5 6 7
	1 2 3 4 5 6 7	1 2 3 4 5 6 7
	3 4 5 6 7	1 2 3 4 5 6 7
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	7	1 2 3 4 5 6 7
		1 2 3 4 5 6 7
		2 3 4 5 6 7
		1 5 6 7

	INDIVIDUAL	GROUP
	Disagree...Agree	Disagree...Agree
11. "How do you feel about working with other members of the profession?"	1 2 3 4 5 6 7	1 2 3 4 5 6 7
12.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
13.	3 4 5 6 7	1 2 3 4 5 6 7
14.	5 6 7	1 2 3 4 5 6 7
15.	6 7	1 2 3 4 5 6 7
16.	THIS SPACE INTENTIONALLY LEFT BLANK FOR	1 2 3 4 5 6 7
17.	PROTECTION OF COPYRIGHT	1 2 3 4 5 6 7
18.	1 2 3 4 5 6 7	
19.	1 2 3 4 5 6 7	
20.	2 3 4 5 6 7	
21.	1 4 5 6 7	

\*Copyrighted 1991. Rose M. Gerber, Ph.D., RN, University of Arizona College of Nursing

The following three questions pertain to nursing practice on your unit.

22. On a scale of 1 (low) to 10 (high), how important is it for you to have control over your nursing practice? \_\_\_\_\_
23. On a scale of 1 (low) to 10 (high), how much control would you generally like to have over your nursing practice? \_\_\_\_\_
24. Which one of the following groups is most influential in determining the amount of control you have over your nursing practice? (Check one):
  - Unit managers/unit directors
  - Staff nurses/peers
  - Physicians
  - Hospital and/or nursing administrators
  - Other: (specify) \_\_\_\_\_

Comments: (Optional)

9/91 rmg

**APPENDIX C**  
**WORK SATISFACTION SCALE**

I.D. # \_\_\_\_\_  
**WORK SATISFACTION QUESTIONNAIRE**

**Directions:** The following items represent statements about satisfaction with your job. Circle the number that most closely indicates how you honestly feel about the statement.

The LOWER numbers indicate degrees of disagreement with the statement; the HIGHER numbers indicate degrees of agreement. The more strongly you feel about the statement, the further from the center you should circle.

	Disagree	Agree
1. My present salary is satisfactory. . . . .	1 2 3 4 5 6 7	
2. Most people do not sufficiently appreciate the importance of nursing care to hospital patients. . . . .	1 2 3 4 5 6 7	
3. The nursing personnel on my service don't hesitate to pitch in and help one another when things get in a rush. . . . .	1 2 3 4 5 6 7	
4. Physicians in general cooperate with the nursing staff on my unit. . . . .	1 2 3 4 5 6 7	
5. Excluding myself, it is my impression that a lot of nursing personnel at this hospital are dissatisfied with their pay. . . . .	1 2 3 4 5 6 7	
6. New employees are not quickly made to "feel at home" on my unit. . . . .	1 2 3 4 5 6 7	
7. I think I could do a better job if I didn't have so much to do all the time. . . . .	1 2 3 4 5 6 7	
8. There is a great gap between the administration of this hospital and the daily problems of the nursing service. . . .	1 2 3 4 5 6 7	
9. Considering what is expected of nursing service personnel at this hospital, the pay we get is reasonable. . . . .	1 2 3 4 5 6 7	
10. There is no doubt whatever in my mind that what I do on my job is really important. . .	1 2 3 4 5 6 7	
11. There is a good deal of teamwork and cooperation between various levels of nursing personnel on my service. . . . .	1 2 3 4 5 6 7	

(Continued on other side)

12. There are not enough opportunities for advancement of nursing personnel at this hospital. . . . . 1 2 3 4 5 6 7

13. There is a lot of teamwork between nurses and doctors on my unit. . . . . 1 2 3 4 5 6 7

14. The present rate of increase in pay for nursing service personnel at this hospital is not satisfactory. . . . . 1 2 3 4 5 6 7

15. The nursing personnel on my service are not as friendly and outgoing as I would like. . . 1 2 3 4 5 6 7

16. I have plenty of time and opportunity to discuss patient care problems with other nursing service personnel. . . . . 1 2 3 4 5 6 7

17. There is ample opportunity for nursing staff to participate in the administrative decision-making process. . . . . 1 2 3 4 5 6 7

18. What I do on my job doesn't add up to anything really significant. . . . . 1 2 3 4 5 6 7

19. There is a lot of "rank consciousness" on my unit, with nursing personnel seldom mingling with others of lower ranks. . . . 1 2 3 4 5 6 7

20. I have sufficient time for direct patient care. . . . . 1 2 3 4 5 6 7

21. From what I hear from and about nursing service personnel at other hospitals, we at this hospital are being fairly paid. . . 1 2 3 4 5 6 7

22. Administrative decisions at this hospital interfere too much with the patient care. . 1 2 3 4 5 6 7

23. It makes me proud to talk to other people about what I do on my job. . . . . 1 2 3 4 5 6 7

24. I wish the physicians here would show more respect for the skill and knowledge of the nursing staff. . . . . 1 2 3 4 5 6 7

25. I could deliver much better care if I had more time with each patient. . . . . 1 2 3 4 5 6 7

(Continued on next page)

26. Physicians at this hospital look down too much on the nursing staff. . . . . 1 2 3 4 5 6 7

27. I have all the voice I want in planning and procedures for this hospital and my unit. . 1 2 3 4 5 6 7

28. My particular job really doesn't require much skill or "know-how". . . . . 1 2 3 4 5 6 7

29. The nursing administrators generally consult with the staff on daily problems and procedures. . . . . 1 2 3 4 5 6 7

30. An upgrading of pay schedules for nursing personnel is needed at this hospital. . . . 1 2 3 4 5 6 7

\*Adapted from: Stamps, P.L. & Piedmonte, E.B. (1986) Nurses and Work Satisfaction. Ann Arbor: Health Administration Press Perspectives.

PARTICIPANT PROFILE INFORMATION      I.D.# \_\_\_\_\_

1. Age: \_\_\_\_\_ years. 2. Sex: \_\_\_ Male; \_\_\_ Female.

3. Length of time employed in this hospital: \_\_\_\_\_ years.  
(If less than 1 year, number of months: \_\_\_\_\_.)

4. Number of scheduled hours of work per week (excludes overtime): \_\_\_\_\_.

5. Nursing Unit Name or Number: \_\_\_\_\_  
Clinical specialty/area of practice: (check one)  
 Medical and/or Surgical       Pediatrics  
 Intermediate or Step-Down       Obstetrics  
 Critical Care/Trauma  
 Other: \_\_\_\_\_

6. Current professional certification? \_\_\_ No; \_\_\_ Yes. Credential: \_\_\_\_\_

7. Basic educational preparation in nursing: (check one)  
 Diploma  
 Associate Degree  
 Baccalaureate Degree

8. Approximate number of years of practice as an R.N.: \_\_\_\_\_ years.

9. Highest educational preparation completed to date: (check one)  
 Diploma (Nursing)  
 Associate Degree (Nursing)  
 Associate Degree (Other/Non-nursing)  
 Baccalaureate Degree (Nursing)  
 Baccalaureate Degree (Other/Non-nursing)  
 Master's Degree (Nursing)  
 Master's Degree (Other/Non-nursing)

100

**APPENDIX D**  
**HUMAN SUBJECTS APPROVAL**  
**WAIVER**

Human Subjects Committee



164 N. Warren, Room 1000  
Tucson, Arizona 85721  
(602) 626-6770, 6771, 6772

October 16, 1991

Rose M. Gerber, Ph.D., RN  
College of Nursing  
Building 203, Room 316  
Arizona Health Sciences Center

**RE: CONTROL OVER NURSING PRACTICE AMONG HOSPITAL STAFF NURSES**

Dear Dr. Gerber:

We received documents concerning your above cited project. Regulations published by the U.S. Department of Health and Human Services [45 CFR Part 46.101(b)(3)] exempt this type of research from review by our Committee.

Please be advised that approval for this project and the requirement of a subject's consent form is to be determined by your department.

Thank you for informing us of your work. If you have any questions concerning the above, please contact this office.

Sincerely yours,

*William F. Denny*  
William F. Denny, M.D.  
Chairman,  
Human Subjects Committee

WFD:sj

cc: Departmental/College Review Committee

College of Nursing



Tucson, Arizona 85721  
602-626-6134

MEMORANDUM

TO: Steve Walls, RN,BSN  
FROM: Leanna Crosby, D.N.Sc., R.N., Director of Intramural Research *JL*  
DATE: October 21, 1991  
SUBJECT: Human Subjects Review: "Control Over Nursing Practice Among Hospital Staff Nurses"

Your research project has been reviewed and approved by William Denny, M.D., Chairman of the University of Arizona Human Subjects Committee, and deemed to be exempt from review by their full committee. You will be receiving a confirmation letter from Dr. Denny. In addition, your project has been reviewed and approved as exempt by the College of Nursing Human Subjects Review Committee. A disclaimer may be used versus a signed consent form. Please be certain that the subjects read the disclaimer prior to giving their oral consent to the research.

We wish you a valuable and stimulating experience with your research.

LC:ms

**APPENDIX E**  
**HOSPITAL APPROVAL**



November 6, 1991

Steve Walls, RN, BSN  
Graduate Student  
College of Nursing  
University of Arizona  
Tucson, Arizona 85721

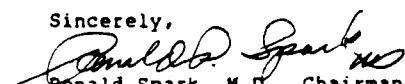
Re: "Control Over Nursing Practice Among Staff Nurses"

Dear Mr Walls:

The Director's Council as well as the Human Research Committee at Tucson Medical Center have reviewed and approved the above study. You may now begin data collection.

If you need assistance with the data collection process, please contact Virginia Del Togno Armanasco MN, RN at extension 1457 or Chris Arslanian MS, RN at extension 5512.

Sincerely,



Ronald Spark, M.D., Chairman  
TMC Human Research Committee

## Carondelet St. Joseph's

November 5, 1991

Rose M. Gerber, Ph.D, RN  
College of Nursing  
Building 203, Room 316  
Arizona Health Sciences Center  
Tucson, AZ 85721

Dear Rose:

I am pleased to inform you that the Research Committee at Carondelet St. Joseph's Hospital has approved your project: "Control Over Nursing Practice Among Hospital Staff Nurses".

I look forward to working with you and Steve on the project.

Sincerely,

*Carol*

Carol Mangold, RN, MSN  
Chair  
Research Committee

CM:sm

cc: Steven E. Walls, RN, BSN

/

350 North  
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12069  
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Arizona  
85732  
602  
224 1011

A Community Hospital and Health Center  
1991-1992 Annual Report

**APPENDIX F**  
**QUESTIONNAIRE COVER SHEET**

**CONTROL OVER NURSING PRACTICE AND WORK SATISFACTION  
AMONG HOSPITAL STAFF NURSES**

The purpose of this study is to describe the relationship between perceived control over nursing practice and work satisfaction among hospital staff nurses. Additionally, a new version of the control over nursing practice scale is being tested for validity and reliability. Your name is not on the questionnaire and all responses will be confidential. That is, only the investigators will have access to your answers and all data will be reported as grouped data. All that is required of you is your honest opinions and about 15 minutes of time.

You are being asked to voluntarily give your opinion on the statements in this questionnaire. By responding to the questionnaire you will be consenting to participate in the study. You may choose not to answer some or all of the questions, if you so desire. Whatever you decide, your job will not be affected in any way. There are no known risks. The investigators will answer your questions about this study and you may withdraw from the study at any time.

Rose M. Gerber, PhD, RN  
Principal Investigator  
College of Nursing  
University of Arizona

Steve Walls, BSN, RN  
Graduate Student  
College of Nursing  
University of Arizona

602-626-2406

**Instructions**

Please complete the questionnaire at your earliest convenience. You may do so while on duty.

Place the completed questionnaire in the attached envelope, seal it, and return it.

Please return before Monday, November 25, 1991.

Thank you. Your time and effort are appreciated.

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